AMENDMENTS

IN THE CLAIMS:

Please cancel claim 22 and add new claim 23 as provided below.

1. (Original) An oil burner system having an electric cord set coupled between a controller and a valve associated with a pump, the electric cord set operable to activate a solenoid valve associated with the pump, the electric cord set comprising a voltage or temperature independent timer circuit operable to activate the solenoid valve a predetermined period of time after a call for ignition signal is generated by the controller, wherein the predetermined time period is substantially constant with respect to variations in line voltage or in an ambient temperature in which the oil burner system resides.

2. (Original) The oil burner system of claim 1, wherein the timer circuit further comprises:

a bridge circuit having an input coupled to the solenoid valve, the bridge circuit adapted to receive a sinusoidal line voltage signal at the input and provide a rectified voltage signal at an output thereof;

a switch associated with the bridge circuit, and operable to permit current flow through the bridge circuit upon a closing of the switch, and further operable to prohibit current flow through the bridge circuit upon an opening of the switch; and

a substantially voltage independent trigger circuit operable to receive a control signal associated with the call for ignition signal from the controller and output an activation output signal to close the switch a predetermined time period after the control signal, wherein the predetermined time period is substantially independent of variations in the line voltage supplied to the oil burner system.

3. (Original) The oil burner system of claim 2, wherein the voltage independent trigger circuit further comprises:

a comparator circuit operable to compare two signals at inputs and output a signal to the switch based on the comparison;

a reference voltage circuit operable to generate a reference voltage which is a function of the line voltage, wherein the reference voltage is coupled to a first input of the comparator circuit; and

a line voltage dependent charging circuit operable to charge an output node between a first voltage potential and a second voltage potential at a rate which is a function of the line voltage, wherein the output node is coupled to a second input of the comparator circuit.

4. (Original) The oil burner system of claim 3, wherein the reference voltage of the reference voltage circuit and the charging rate of the line voltage dependent charging circuit are both a positive function of the line voltage, wherein an increase in the line voltage causes the reference voltage to increase and the charge rate to increase, respectively.

5. (Original) The oil burner system of claim 3, wherein the predetermined time period is determined by when the output node of the line voltage dependent charging circuit exceeds the reference voltage.

6. (Original) The oil burner system of claim 5, wherein the predetermined time period is substantially independent of line voltage by having a variation in the reference voltage caused by a variation in the line voltage compensated by a corresponding change in the charging rate of the output node of the line voltage dependent charging circuit.

7. (Original) The oil burner system of claim 2, wherein the voltage independent trigger circuit comprises:

a comparator circuit having a first and second input and one output, and operable to compare two signals at the inputs and provide a signal at the output which is based on a comparison of the two input signals;

a first charging circuit having an output node coupled to the first input of the comparator circuit, and operable to charge between a first voltage potential and a second voltage potential at a first charging rate; and

a second charging circuit having an output node coupled to the second input, and operable to charge between a third voltage potential and a fourth voltage potential at a second charging rate which is greater than the first charging rate, and wherein the second voltage is greater than the fourth voltage.

8. (Original) The oil burner system of claim 7, wherein the first charging circuit comprises:

a first resistor having a first terminal and a second terminal;

a first capacitor having a first terminal and a second terminal, and coupled in parallel with the first resistor; and

a second resistor having a first terminal and a second terminal, the second terminal coupled to the first terminals of the first resistor and the first capacitor, respectively, and forming a first charging node thereat, and wherein the first charging rate at the first charging node is a function of a resistance of the first and second resistors, a capacitance of the first capacitor, and the line voltage.

9. (Original) The oil burner system of claim 8, wherein the second charging circuit comprises:

a third resistor having a first terminal and a second terminal;

a second capacitor having a first terminal and a second terminal, and coupled in parallel with the third resistor; and

a fourth resistor having a first terminal and a second terminal, the second terminal coupled to the first terminals of the third resistor and the second capacitor,

respectively, and forming a second charging node thereat, and wherein the second charging rate at the second charging node is a function of a resistance of the third and fourth resistors, a capacitance of the second capacitor, and the line voltage.

10. (Original) The oil burner system of claim 9, wherein the first and second charging rates are both functions of the line voltage in the same manner, thereby making a comparison of the voltage at the first and second charging nodes substantially independent of the line voltage.

11. (Previously presented) The oil burner system of claim 10, further comprising a half-wave rectification circuit coupled between the sinusoidal line voltage signal and the first and second charging circuits, respectively, wherein the half-wave rectification circuit is operable to half-wave rectify the sinusoidal line voltage signal input to the first and second charging circuits, and wherein the first and second charging circuits are operable to minimize a ripple associated with a charging voltage of the first and second charging circuits, respectively, thereby making the predetermined time period substantially independent of a frequency of the sinusoidal line voltage signal.

12. (Original) The oil burner system of claim 7, wherein the comparator circuit comprises a programmable unijunction transistor.

13-22. (Canceled).

23. (New) The oil burner system of claim 1, wherein the timer circuit further comprises:

a full-bridge circuit having an input coupled to the solenoid valve, the full-bridge circuit adapted to receive a sinusoidal line voltage signal at the input and provide a full-wave rectified voltage signal at an output thereof;

a switch associated with the full-bridge circuit, and operable to permit current

flow through the full-bridge circuit upon a closing of the switch, and further operable to prohibit current flow through the full-bridge circuit upon an opening of the switch; and

a substantially voltage independent trigger circuit operable to receive a control signal associated with the call for ignition signal from the controller and output an activation output signal to close the switch a predetermined time period after the control signal, wherein the predetermined time period is substantially independent of variations in the line voltage supplied to the oil burner system.